



Memorandum

U.S. Department
of Transportation

**Federal Aviation
Administration**

Subject: **ACTION:** Extension of ELOS for Cabin Pressurization -
High Altitude Takeoff and Landing Operations of Cessna
Model 525B, ACE-99-07A.

Date: January 16, 2004

From: Manager, Wichita ACO

Reply to Mr. Charles Riddle
Attn. of: ACE-117W

To: Manager, Small Airplane Directorate, ACE-100

Attn:

Background: By their letter dated October 16, 2002, reference L390-01-02-3385, Cessna requested extension of ELOS ACE-99-07, for Cabin Pressurization – High Altitude Takeoff and Landing Operations to the Model 525B, reference FAA Project AT3268WI-A. The following information is taken from Cessna's letter:

1. The FAA granted an Equivalent Level of Safety (ELOS) for 14 CFR 23.841(b)(6) for the Model 525A. Extension of the ELOS to the Model 525B is respectfully requested based on similarity of design. Where significant design changes have been made to the Model 525B, testing to justify the similarity will be performed.
2. The Model 525B is sufficiently similar to the Model 525A, such that no testing is required by changes that could affect applicability of the Model 525A ELOS.
 - a. There is no change to the cabin pressure control system hardware from that on the Model 525A except for increased plumbing length.
 - b. There is no change to the oxygen system hardware from that on the Model 525A except for increased plumbing length.
 - c. High altitude provisions will be the same as on the Model 525A.
3. The Model 525B high altitude takeoff and landing operational factors and limitations as relating to this ELOS are unchanged.
4. The annunciations and criticality for high altitude takeoff and landing operations for Model 525B as relating to this ELOS are unchanged.

Applicable regulations: The Cessna Model 525B will be certified in the Commuter Category to the certification basis shown in Stage 4 of Issue Paper G-1, which is:

- Part 23 as amended through Amendment 23-54 except:
 - §23.773, 23.775, 23.933, 23.1309, 23.1311, 23.1419, 23.1441, 23.1451, and 23.1453 as amended through Amendment 23-40
 - §23.1309 as amended through Amendment 23-49 for the engine FADEC installation only.
 - Special conditions will be developed to be used in lieu of the following paragraphs of Part 23: 23.51, 23.63(a) and (d)(1), 23.67(c)(2), 23.149(d) and (f), 23.161(c), 23.173(c), 23.177, 23.201(d) and (e), 23.203(c), 23.251, 23.253, 23.1505, 23.1545, 23.1583 (a)(1), (a)(2), and (c)(4)(i), 23.1585(c)(3).

- Paragraph 5(a) of Special Conditions 23-102-SC for High Altitude Operation.
- Paragraphs 2, 3, 4, 5, and 37 of Special Conditions 23-ACE-55.
- Part 36 as amended at the time of certification.
- Part 34 as amended at the time of certification.
- Extension of Exemption 5759 from the requirements of 23.181(b).
- Extension of Equivalent Safety findings ACE-00-01, ACE-99-07, and ACE-00-05.
- Equivalent Safety Finding for §23.783(f)(1), Passenger Entry Door.
- Equivalent Safety Finding for §23.815, Aisle Width.
- Exemption to permit certification in the Commuter Category.

Regulation Requiring an ELOS: 14 CFR §23.841(b)(6) requires a warning to the crew when the safe or preset cabin pressure altitude limit is exceeded.

Compensating features which allow the granting of the ELOS: See the attached copy of the ELOS memo dated June 24, 1999, which granted ELOS ACE-99-07 for the Model 525A.

Explanation of how these features provide an ELOS: See the attached copy of the ELOS memo dated June 24, 1999, which granted ELOS ACE-99-07 for the Model 525A..

ACO Recommendation: The Wichita ACO has reviewed the information presented in Cessna's letter and the information in the ELOS memo dated June 24, 1999, and concurs that it is appropriate to extend ELOS ACE-99-07 to the Model 525B.

Ronald K. Rathgeber

Jan. 21, 2004

Ronald K. Rathgeber, ACE-115W
Manager, Wichita Aircraft Certification Office

Concurrence:

Michael K. Dahl

Feb. 10, 2004

Manager, Standards Office, ACE-110

Date

Acting Manager, James E. Jackson

Feb. 11, 2004

Manager, Small Airplane Directorate, ACE-100

Date

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